

A.) AMENDMENTS TO THE CLAIMS:

1. (currently amended) A quality of service (QoS) station containing a point coordinator (PC) for a basic service set (BSS) in a wireless network, the PC comprising:

a QoS management entity (QME) receiving at least one end-to-end QoS message characterizing a user application, the at least one end-to-end QoS message including at least one QoS parameter set that is expressed at layer 3 and higher of an ISO/IEC basic reference model of Open Systems Interconnection (OSI) (ISO/IEC 7498-1) and is to be passed down to layer 2 of the PC-station for enabling QoS traffic transport of the application; and

an admission control entity (ACE) performing an admission control decision relating to the application based on the at least one end-to-end QoS message characterizing the application,

wherein the at least one end-to-end QoS message characterizing the application is a request for admitting the application to the wireless network, wherein the ACE, responsive to the at least one end-to-end QoS message, rejects or admits the requesting application to the wireless network based on an outcome of the admission control decision, and wherein the QME, responsive to an admitted application, establishes at least one virtual stream (VS) in layer 2 of the BSS for transporting the traffic of the application between logical link control (LLC) sublayer entities within the BSS.

2. (previously presented) The QoS PC station according to claim 1, wherein the wireless network is a wireless local area network (WLAN).

3. (previously presented) The QoS PC station according to claim 1, wherein the user application is one of a voice call, a video call, a data call and a multimedia call.

4. (previously presented) The QoS PC station according to claim 3, wherein the user application joins at least one other existing user application.

5. (previously presented) The QoS PC station according to claim 1, wherein the ACE includes at least one of a resource control module and a policy control module, the resource control module performing at least one admission control decision based on resource permission and the policy control module performing at least one admission control decision based on policy permission.

6. (previously presented) The QoS PC station according to claim 1, wherein the ACE is part of the QME.

7. (canceled)

8. (currently amended) The QoS PC station according to claim 1, wherein the QME assigns a VS identifier (VSID) to each VS established for the admitted application.

9. (currently amended) The QoS PC station according to claim 1 7, further comprising:
a frame classification entity (FCE) having a classification table associating one of the VSID established for the application with a frame classifier, the FCE being logically located in a LLC sublayer of layer 2 in the QoS PC station; and

a frame scheduling entity (FSE) having a scheduling table associating the at least one of the VSID established for the application with at least one QoS parameter set characterizing the application on a one-to-one basis, the FSE being logically located at a medium access control (MAC) sublayer of layer 2 in the QoS PC station;

wherein the QME of the PC station extracts at least one frame classifier from the at least one end-to-end QoS message characterizing the application, and passes at least one extracted frame classifier together with one of the at least one VSID established for the application to the FCE, each extracted frame classifier containing at least one classification parameter identifying frames of the application with one of the at least one VSID established for the application, the FCE, responsive to the passed VSID and frame classifier for the application, adding the passed VSID and frame classifier to the classification table, and

wherein the QME passes the at least one VSID established for the application and the at least one QoS parameter set characterizing the application to the FSE, the FSE, responsive to the at least one VSID and the at least one QoS parameter set passed for the application, adding the at least one VSID and the at least one QoS parameter set passed to the scheduling table.

10. (previously presented) The QoS PC station according to claim 9, wherein the QME is further responsive to the admitted application by causing the PC station to send a management frame to each non-PC station participating in the admitted application in the BSS, the management frame containing information defining one of the at least one VSID established for the application, one of the at least one classifier extracted for the application, and one of the at least one QoS parameter set characterizing the application, the information in the management frame being for a new admitted application.

11. (previously presented) The QoS PC station according to claim 10, wherein a non-PC station participating in the application includes a QME and an FCE, the participating non-PC station receiving the management frame and passing the information contained in the management frame to the QME of the non-PC station, and the QME of the non-PC station passing the frame classifier and the VSID contained in the management frame to the FCE of the non-PC station.

12. (previously presented) The QoS PC station according to claim 11, wherein the non-PC station participating in the application further includes an FSE, the QME of the non-PC station passing the VSID and the QoS parameter set contained in the management frame to the FSE.

13. (previously presented) The QoS PC station according to claim 9, wherein the FCE of the PC station receives a frame at the LLC sublayer and classifies the frame to be associated with a VSID established for an application; and

wherein the FSE schedules transmission of the classified frame based on the QoS parameter set associated with the VSID.

14. (previously presented) The QoS PC station according to claim 9, wherein the FCE of the non-PC station receives a frame at the LLC sublayer and classifies the frame to be associated with a VSID established for an application,

wherein the FSE of the PC station schedules a transmission opportunity (TO) for the classified frame based on the QoS parameter set associated with the VSID, and

wherein the FSE of the non-PC station schedules transmission of the classified frame based on the TO and the QoS parameter set associated with the VSID for the classified frame.

15. (previously presented) The QoS PC station according to claim 1, wherein the ACE reserves a resource based on a QoS parameter set contained in the end-to-end QoS message.

16. (previously presented) The QoS PC station according to claim 1, wherein the at least one QoS parameter set contained in the at least one end-to-end QoS message is a request for modifying at least one QoS parameter set associated with an existing application,

wherein the ACE, responsive to the at least one end-to-end QoS message, modifies the application based on a modification of the at least one QoS parameter associated with the application, and

wherein the QME, responsive to the modified application, sends a management frame to each non-PC station participating in the application, the management frame containing information relating to the modification of the QoS parameter set for the application.

17. (previously presented) The QoS PC station according to claim 16, wherein a non-PC station participating in the application includes a QME, the participating non-PC station receiving the management frame and passing the information relating to the modification of the QoS parameter set to the QME of the non-PC station.

18. (previously presented) The QoS PC station according to claim 17, wherein the non-PC station participating in the application further includes an FSE, the QME of the non-PC station passing the modified QoS parameter set to the FSE of the non-PC station, the FSE of the non-PC station scheduling VS transmission based on the modified QoS parameter set.

19. (previously presented) The QoS PC station according to claim 1, further comprising:
a frame classification entity (FCE) having a classification table associating a frame classifier with a corresponding virtual stream identifier (VSID), and
a frame scheduling entity(FSE) having a scheduling table associating a VSID with a corresponding QoS parameter set;

wherein an existing application has at least one associated virtual stream (VS), wherein each VS has an associated VSID, wherein the at least one QoS parameter set contained in the at least one end-to-end QoS message is a request for terminating an existing application, wherein the ACE, responsive to the at least one end-to-end QoS message, releases a resource allocated to the existing application, and wherein the QME, responsive to the at least one end-to-end QoS message, instructs the FCE to remove the VSID and frame classifier associated with the existing application from the classification table, and further instructs the FSE to remove the VSID associated with the existing application from the scheduling table.

20. (previously presented) The QoS PC station according to claim 19, wherein the QME causes the PC station to send a management frame to each non-PC station participating in the application, the management frame containing information relating to a termination of the existing application.

21. (previously presented) The QoS PC station according to claim 20, wherein a non-PC station participating in the application includes a QME and an FCE, the participating non-PC station receiving the management frame and passing the information contained in the management frame to the QME of the non-PC station, and the QME of the non-PC station passing the information relating to the termination of the existing application to the FCE of the non-PC station.

22. (previously presented) The QoS PC station according to claim 21, wherein the non-PC station participating in the application further includes an FSE, the QME of the non-PC station passing the information relating to the termination of the existing application to the FSE of the non-PC station.

23. (currently amended) A method for setting up a user application in a wireless network, the communication session having a defined quality of service (QoS), the method comprising steps of:

receiving at a QoS management entity (QME) of a point coordinator (PC) station at least one end-to-end QoS message characterizing the user application, the at least one end-to-end QoS message including at least one QoS parameter set that is expressed at layer3 and higher of an ISO/IEC basic reference model of Open Systems Interconnection (OSI)(ISO/IEC7498-1) and is to be passed down to layer 2 of the PC-station for enabling QoS traffic transport of the application; and

performing at an admission control entity (ACE) of the PC station an admission control decision relating to the application based on the at least one end-to-end QoS message characterizing the application, the ACE being part of the QME of the PC station,

wherein the at least one end-to-end QoS message characterizing the application includes a request for admitting the application to the wireless network, the method further comprising steps of:

rejecting or admitting by the ACE the requesting application to the wireless network based on an outcome of the admission control decision, and

establishing by the QME at least one virtual stream (VS) in layer 2 of the BSS for transporting the traffic of the application between logical link control (LLC) sublayer entities within the BSS.

24. (previously presented) The method according to claim 23, wherein the wireless network is a wireless local area network (WLAN).

25. (previously presented) The method according to claim 23, wherein the user application is one of a voice call, a video call, a data call and a multimedia call.

26. (previously presented) The method according to claim 25, wherein the user application joins at least one other existing user application.

27. (previously presented) The method according to claim 23, further comprising steps of performing by a resource control module of the ACE at least one admission control decision based on resource permission; and

performing by a policy control module of the ACE at least one admission control decision based on policy permission.

28. (canceled)

29. (currently amended) The method according to claim 23 28, further comprising a step of assigning a VS identifier (VSID) by the QME to each VS established for the admitted application.

30. (currently amended) The method according to claim 23 28, further comprising steps of:

forming at a frame classification entity (FCE) of the PC station a classification table associating one of the VSID established for the application with a frame classifier, the FCE being logically located in a LLC sublayer of layer 2 in the QoS PC station; and

forming at a frame scheduling entity (FSE) of the PC station a scheduling table associating the at least one of the VSID established for the application with at least one QoS parameter set characterizing the application on a one-to-one basis, the FSE being logically located at a medium access control (MAC) sublayer of layer 2 in the QoS PC station; extracting at the QME of the PC station at least one frame classifier from the at least one end-to-end QoS message characterizing the application; each extracted frame classifier containing at least one classification parameter identifying frames of the application with one of the at least one VSID established for the application;

passing by the QME of the PC station the VSID assigned to one of the at least one VS established for the application and one of the at least one frame classifier to the FCE of the PC station;

passing by the QME of the PC station the VSID assigned to one of the at least one VS established for the application and one of the at least one QoS parameter set characterizing the application to the FSE of the PC station;

adding by the FCE of the PC station the passed VSID and frame classifier to the classification table; and

adding by the FCE of the PC station the passed VSID and QoS parameter set to the scheduling table.

31. (previously presented) The method according to claim 30, further comprising a step of sending a management frame to each non-PC station participating in the admitted application in the BSS, the management frame containing information defining one of the at least one VSID established for the application, one of the at least one frame classifier extracted for the application, and one of the at least one QoS parameter set characterizing the application, and the information in the management frame being for a new admitted application.

32. (previously presented) The method according to claim 31, wherein a non-PC station participating in the application includes a QME and an FCE, the method further comprising steps of:

receiving the management frame message at the non-PC station;

passing to the QME of the non-PC station the information contained in the management frame, and passing the frame classifier and the VSID contained in the management frame to the FCE of the non-PC station.

33. (previously presented) The method according to claim32, wherein the non-PC station participating in the application further includes an FSE, the method further comprising a step of passing the VSID and the QoS parameter set contained in the management frame to the FSE.

34. (previously presented) The method according to claim33, further comprising steps of:

receiving a frame by the FCE of the PC station at the LLC sublayer and classifying the frame to be associated with a VSID established for an application; and

scheduling by the FSE of the PC station transmission of the classified frame based on the QoS parameter set associated with the VSID.

35. (previously presented) The method according to claim 33, further comprising steps of:

receiving a frame by the FCE of the non-PC station at the LLC sublayer and classifying the frame to be associated with a VSID established for an application; and

scheduling by the FSE of the PC station a transmission opportunity(TO) of the classified frame based on the QoS parameter set associated with the VSID, and scheduling by the FSE of the non-PC station transmission of the classified frame based on the TO and the QoS parameter set associated with the VSID for the classified frame.

36. (previously presented) The method according to claim 23, further comprising a step of reserving a resource based on the at least one QoS parameter set contained in the at least one end-to-end QoS message characterizing a user application.

37. (previously presented) The method according to claim 23, wherein the at least one QoS parameter set contained in the at least one end-to-end QoS message is a request for modifying at least one QoS parameter set associated with an existing application, the method further comprising steps of: modifying by the ACE the application based on a modification of the at least one QoS parameter associated with the application; and

sending by the QME a management frame to each non-PC station participating in the application, the management frame containing information relating to the modification of the QoS parameter set for the application.

38. (previously presented) The method according to claim 37, wherein a non-PC station participating in the application includes a QME, the method further comprising steps of:

receiving the management frame by the participating non-PC station; and

passing the information relating to the modification of the QoS parameter set to the QME of the non-PC station.

39. (previously presented) The method according to claim 38, wherein the non-PC station participating in the application further includes an FSE, the method further comprising a step of passing by the QME of the non-PC station the modified QoS parameter set to the FSE of the non-PC station.

40. (previously presented) The method according to claim 23, wherein the at least one QoS parameter set contained in the at least end-to-end QoS message is a request for terminating an existing application, the method further comprising steps of:

releasing by the ACE, in response to the at least one-to-one QoS message, a resource allocated to the existing application, and removing by the FCE, in response to an instruction from the QME, the VSID and frame classifier associated with the existing application from the classification table; and

removing by the FSE, in response to an instruction from the QME, the VSID associated with the existing application from the scheduling table.

41. (previously presented) The method according to claim 40, further comprising a step of sending a management frame from the PC station to each non-PC station participating in the application, the management frame containing information relating to a termination of the existing application.

42. (previously presented) The method according to claim 41, wherein a non-PC station participating in the application includes a QME and an FCE, the method further comprising steps of:

receiving the management frame at the participating non-PC station; and
passing the information contained in the management frame to the QME of the non-PC station.

43. (previously presented) The method according to claim 42, wherein the non-PC station participating in the application further includes an FSE, the method further comprising a step of passing by the QME of the non-PC station the information relating to the termination of the existing application to the FSE of the non-PC station.